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Predicting antidepressant treatment without controlling for depression is ill-advised

ARTICLE *in* JOURNAL OF PSYCHIATRIC RESEARCH · JULY 2015

Impact Factor: 4.09 · DOI: 10.1016/j.jpsychires.2015.07.007

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Letter to the Editor

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Keywords:

Antidepressant treatment
Burnout
Conceptual overlap
Confounding variable
Depression
Methodology
Third variable issue

Madsen et al. (2015) examined the prospective association between work-related burnout and antidepressant treatment in human service workers. The authors defined work-related burnout based on exhaustion symptoms assessed in the occupational context. They concluded that *work-related burnout is an important risk factor for antidepressant treatment*. While we read the authors' article with interest, we think that the internal validity of their study is threatened by the absence of assessment and statistical control of depression. This state of affairs undermines the conclusions drawn by the authors.

Given that the aim of the reported study was to examine the link between burnout and *antidepressant* treatment, the non-consideration of depression (both in terms of depressive symptoms and depressive disorders) is particularly problematic. Because of this omission, the authors cannot establish that burnout *independently* affects antidepressant intake. Put differently, whether burnout accounts for variance in antidepressant intake that is not explained by depression cannot be determined, leaving the study results largely uninterpretable.

Many studies have shown that distinguishing burnout from depression is challenging (Ahola et al., 2014; Bianchi and Laurent, 2015; Bianchi et al., 2014, 2015a, 2015b; Hintsa et al., in press; Rydmark et al., 2006; Wang et al., 2012). For example, in a recent, nosology-focused study, no diagnostically significant differences were found between burned out workers and clinically depressed patients in terms of reported depressive symptoms (Bianchi et al., 2013). At an etiological level, (chronic) work stress—from which burnout is supposed to result (Weber and Jaekel-Reinhard, 2000)—is also known to be an important depressogenic factor

(McTernan et al., 2013; Netterstrøm et al., 2008; Niedhammer et al., 2015; Tennant, 2001; Wang, 2005) and has been associated with antidepressant medication (Virtanen et al., 2007) and suicide (Amagasa et al., 2005). In this context of research suggesting between-syndrome overlap, it would have been especially interesting to observe whether burnout still predicted antidepressant treatment once depression was controlled for (see also Shirom, 2005).

Assessing depression would have also helped clarify the clinical meaning of the cutoff scores used by the authors to categorize levels of burnout. Indeed, although the authors lament a lack of clinical reference points in past burnout research, they themselves use categorization criteria for burnout whose clinical underpinning is elusive. For instance, when identifying workers with “high burnout” using a cutoff score of 50/100 on the Copenhagen Burnout Inventory—corresponding to burnout symptoms experienced “sometimes or somewhat” (see Kristensen et al., 2005, p. 200), the authors rely on a convenience cutpoint rather than a clinically-informed one. These categorization strategies add to the uncertainty surrounding the interpretation of the study results.

All in all, the link observed by Madsen et al. (2015) between burnout and antidepressant intake may well conceal an expected relationship between *depression* and antidepressant intake. The impossibility of ruling out this reasonable alternative hypothesis renders the study inconclusive. We recommend that future research on (psychotherapeutic or pharmacologic) treatments for burnout incorporate measures of depression in order to facilitate research advance on burnout's characterization and burnout-depression overlap.

Contributors

Each of the three authors has contributed to the preparation of the article (e.g., writing, reviewing, editing) until a consensus was reached on the final version of the manuscript. All authors have approved the final version of the manuscript.

Role of the funding source

No funding source involved.

Conflicts of interest

None.

Acknowledgement

None.

DOI of original article: <http://dx.doi.org/10.1016/j.jpsychires.2015.07.006>.

<http://dx.doi.org/10.1016/j.jpsychires.2015.07.007>
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Please cite this article in press as: Bianchi, R., et al. Predicting antidepressant treatment without controlling for depression is ill-advised, Journal of Psychiatric Research (2015), <http://dx.doi.org/10.1016/j.jpsychires.2015.07.007>

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15 May 2015